

REMARKS

Claims 1-37, 39, 40, 42-47, 49-54, 56, 58-68, and 70-72 are pending in the above-referenced patent application. The Examiner has indicated that claims 22-31, 39, 40, 42, and 70 are allowable. Claims 1-21, 32-37, 43-47, 49-54, 56, 58-68, and 70-72 have been finally rejected. Claims 38, 41, 48, 55, 57, and 69 have been cancelled in previous Office Action responses. Claims 1-21, 32-37, 43-47, 49-54, 56, 58-68, and 70-72 remain for consideration upon entry of the present Response.

In the Office Action, claims 1-6, 8, 9, 11, 12, 15, 32-34, 36, 43-45, 47, 58-62, 64, 66-68, 71, and 72 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,841,918 (hereinafter the '918 patent) to Li, in view of U.S. Patent No. 6,445,852 (hereinafter the '852 patent) to Feced et al.

The '918 patent is directed to a system for modifying an input optical signal by reducing its bandwidth and modifying its central wavelength. The system has an optical circulator with at least three ports and at least two optical filters coupled to consecutive ports of the circulator. The first filter produces a predetermined reflected band off the input optical signal. The second filter produces a predetermined transmission band as a part of the reflected band. Either or both of the optical filters are tunable to shape and trim the input signal in a predetermined manner. Multi-channel and cascade configurations may be formed. The system may serve as a tunable filter or as an add/drop module in WDM communication networks. (See the Abstract of the '918 patent.)

The '852 patent is directed to methods and apparatus for creating a Bragg grating in an optical waveguide having an optical fiber on which the Bragg grating is defined. The Bragg grating has an actual response which closely approximates a desired response. The Bragg grating comprises a plurality of lines, each line being defined by a respective strength, and each line having a relative displacement from adjacent lines. The Bragg grating is designed using a serial iterative response. The serial iterative process can be used to calculate the strength and the line spacing of at least some of the lines. The serial iterative process can further be a function of a coupling function, which is a function of the strength and line spacing of the lines of the grating. A moving window can be used to limit the number of reflections in the impulse response which is used to calculate the next serial line spacing. The serial iterative process can further be a function of the group velocity of light in the optical fiber, the reflectivity of the grating, and the dispersion response of the grating. (See the Abstract of the '852 patent.)

In the Office Action, the Examiner acknowledges that unlike the invention recited in claims 1 and 32 of the instant patent application, the '918 patent "does not teach that at least one of the first reflective filter function and the second reflective filter function is not substantially flat over a substantial portion of the of the respective first or second reflective filter function..."

Prior to discussing the teachings of the '918 patent as they relate to the instant application, Applicants will address some of the issues raised by the Examiner in the "Response To Arguments" section of the Office Action. The Examiner states that "conventional filter responses tend to have a "ramped" or "Gaussian" shape which approximates a "flat response." The Examiner has made critical remarks to the effect that Applicants have relied on unsubstantiated statements, yet the Examiner appears with this statement to be doing the same thing. Applicants respectfully request that the Examiner provide Applicants with references that support the Examiner's contentions.

The Examiner also states in the Office Action that "the filter response of Li is not substantially flat 'over a substantial portion of the filter function' as recited in claim 1 (see lines 14 and 15) since the Applicant has not defined the term 'substantial portion' in any terms of degree in the specification." With respect to the '918 patent, FIGS. 2a, b, and c are reproduced below. Upon viewing these figures, which are referred to in the Office Action as well as the Examiner's Answer, it is immediately clear that the filter response disclosed in Li is flat. Each and every one of FIGS. 2a, b, and c show a flat filter response, and the specification provides nothing to lead one to conclude otherwise.

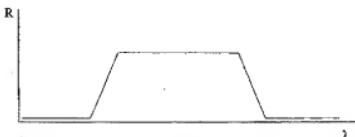


Fig. 2a



Fig. 2b

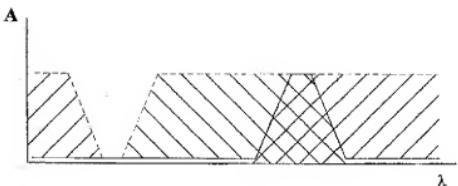


Fig. 2c

The Examiner states that he is not relying on the '918 patent to teach that at least one of the first reflective filter function and the second reflective filter function is not substantially flat, as is recited in claim 1. However, the Examiner then addresses this issue in an apparently contradictory manner in his response to Applicants' arguments. Accordingly, since Applicants do not wish to be construed as having acquiesced to the Examiner's characterizations, they make their position clear herein.

In support of the Examiner's rejections, the Examiner states in one section of the Office Action that "Applicant has not defined the term 'substantial portion' in any terms of degree in the specification." The Examiner also states the following in the Response to Arguments section of the Office Action.

In response to this argument, the Examiner reaffirms his position that the term "substantially" is not defined in the specification. The applicant cites Figures 3A, 3B and 6 in his Appeal Brief as showing support for this limitation. However, a description accompanying these figures indicates that the resulting reflective filter function can be substantially aligned or the same as the reflection wavelength but there is no quantitative measure associated with the term "substantially" (see page 9 of specification, lines 1-18).

Applicants respectfully submit that the Examiner has misinterpreted the present state of the law with respect to terms of degree such as "substantially." "The term 'substantial' is a meaningful modifier implying approximate rather than perfect." *Playtex Products, Inc. v. Proctor & Gamble Company and Proctor and Gamble Distributing Company*, 400 F.3d 901, 907 (Fed. Cir. 2005). In *Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc., GLS INDUSTRIES, Inc., Equipment, Inc., Raymond R. Price and Gerald P. Price*, 340 F.3d 1298 (Fed. Cir. 2003), the court opined "words of approximation, such as 'generally' and 'substantially,' are descriptive terms commonly used in patent claims 'to avoid numerical boundary to the specified

parameter.” *Anchor Walls* at 1310-1311 citing *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367 (Fed. Cir. 2001) (quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217 (Fed. Cir. 1995)). Terms such as “approach each other,” “close to,” “substantially equal,” and “closely approximate,” are ubiquitously used in patent claims and such usages, when serving reasonably to describe the claimed subject matter to those of skill in the field of the invention and to distinguish the claimed subject matter from the prior art, have been accepted in patent examination and upheld by the courts. And while ideally, all terms in a disputed claim would be definitively bounded and clear, such is rarely the case in the art of claim drafting. *Andrew Corp. v. Gabriel Elecs. Inc.*, 847 F.2d 819, 821-22 (Fed. Cir. 1988).

In the *Anchor Wall* case in which one of the issues was the meaning to be attributed to the term “generally parallel,” the court stated that:

It is undisputed in this case that ordinarily, “parallel” means “everywhere equal distant.” *Anchor*, 252 F. Supp. 2d at 852 (citing Merriam-Webster Collegiate Dictionary 842 (10th ed. 1998)). Additionally, the relevant definition of “generally” is “in disregard of specific instances and with regard to an overall picture, on the whole, as a rule.” Webster’s Third New International [**29] Dictionary 945. Because the claim language itself expressly ties the adverb “generally” to the adjective “parallel,” the ordinary meaning of the phrase “generally parallel” envisions some amount of deviation from exactly parallel. [HN13] It is the claim limitation, as a whole, that must be considered in claim construction. *Apex*, 325 F.3d at 1374.

The written description does not specify any special definition for the terms “generally,” “parallel,” or the phrase “generally parallel.” See, e.g., ‘015 patent, col. 5, ll. 5-6 (“The top surface 26 generally lies parallel to the bottom surface 28.”); ‘713 patent, col. 5, ll. 10-11 (same). Moreover, nothing in the prosecution history of the ‘015 patent family clearly limits the scope of “generally parallel” such that the adverb “generally” does not broaden the meaning of parallel. Accordingly, we hold that the phrase “generally parallel” envisions some amount of deviation from exactly parallel.

Playtex at 907.

In the Office Action, the Examiner states, as set forth above, that the term “substantial portion” is not defined in the specification. Applicants respectfully contend that such a definition is not required and would be inconsistent with the reasons that such terms of degree

are employed in patent claims. Such terms are used to avoid having to precisely bound the specified parameters. In *Epcos Gas Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022 (Fed. Cir. 2002), the term in question was "substantially uniform." Regarding this term, the court opined: "The patents do not set out any numerical standard by which to determine whether the thickness of the wall surface is 'substantially uniform.' The term 'substantially' as used in this context denotes approximation."

The same reasoning can be applied to the term "substantial portion," as well as the term "not substantially flat." Claim 1 of the present application recites that "at least one of the first reflective filter function and the second reflective filter function is not substantially flat over a substantial portion of the respective first and second reflective filter function." Keeping in mind the findings of the Federal Circuit as set forth above, the terms "substantial" and "substantially" as used herein should be construed to mean "not insignificant" and be interpreted in light of the specification of which the figures are considered part thereof. Referring to FIGS. 5, 6, and 7 of the present application, reproduced below for convenience,

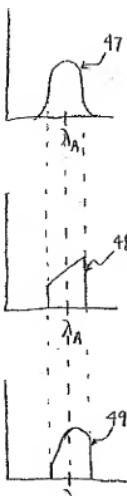


Fig. 5

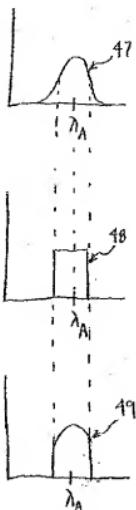


Fig. 6

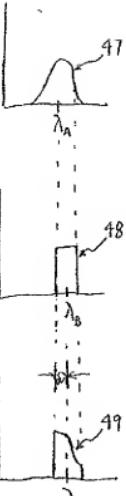


Fig. 7

it is immediately apparent that substantial portions of the filter response 47 are substantially not flat. Accordingly, and consistent with the current case law, Applicants contend that the terms "substantial portion" and "not substantially flat" are appropriate and of ascertainable scope, particularly in light of FIGS. 5, 6 and 7.

With regard to the Examiner's rejection of independent claims 1 and 32, the Examiner admits that the '918 patent does not teach that at least one of the first reflective filter function and the second reflective filter function is not substantially flat over a substantial portion of the respective first and second reflective filter function as is recited in claims 1 and 32. Instead, the Examiner relies on the '852 patent for such teaching, stating that "Feced et al. teaches that at least one of the first reflective filter function and the second reflective filter functions is not substantially flat over a substantial portion of the respective first or second reflective filter function." In support of this contention, the Examiner relies on column 11, lines 63-67 and column 12, lines 1-18 of the '852 patent. This passage reads as follows:

The present invention also provides a method for designing the coupling coefficient 50 of a single grating such that the filter response $R(\lambda)$ and the group delay characteristic 95 can be non-continuous, non-monotonic, and can define several passbands. The filter response of each passband can be optimized by using the present invention compared to that described in prior art, and can be derived from one or more of the embodiments described above. The relative wavelength spacing of each passband can be equal or different. The filter response of each passband can be equal or different. The phase and group delay response of each passband can be equal or different. The passband width and bandwidth utilization of each passband can be equal or different. The relative phase of the filter response of each passband can be negative, positive, or zero. The relative phase of the filter response between adjacent passbands can be equal or different; the relative phase need not increase or decrease monotonically with wavelength. The variety of designs that can be generated by the present invention demonstrates that the technique is well-suited to designing practical grating structures that have filter characteristics that [are] well-matched to ideal filter responses for a wide variety of applications.

Applicants are at a loss with respect to the Examiner's reliance on the above set-forth passage to teach, as the Examiner states, "that at least one [of] the first reflective filter function and the second reflective filter functions is not substantially flat over a substantial portion of the respective first or second reflective filter function." Instead the passage relied on by the

Examiner speaks in passing about optimizing filter responses and group delay characteristics. There is no specific device discussed in this passage.

As an initial matter, and unlike the invention recited in claim 1 of the present application, the '852 patent does not disclose, teach, or suggest, a system having both a first and second filter. Nor does the '852 patent disclose, teach, or suggest a method for filtering light in which the first and second filters are provided, as in claim 32. Therefore, it necessarily follows that the '852 patent cannot teach or suggest that at least one of the first reflective filter function and the second reflective filter function is not substantially flat over a substantial portion of the respective first or second reflective filter function. Instead, the '852 patent teaches how one can produce a Bragg grating with passing reference in the section relied on by the Examiner to a method for designing a coupling function (the coupling coefficient) of a single grating as well as the different responses that may be obtained. Teaching how to produce a Bragg grating with a passing reference to a method for designing a coupling function of a single grating is not sufficient to support a section 103 rejection because a substantial mental leap is required, even by one skilled in the art, to go from the disclosure in the '852 patent to what the Examiner states is taught thereby, namely, that at least one of the first reflective filter function and the second reflective filter function is not substantially flat over a substantial portion of the respective first or second reflective filter function. This is particularly true here because there is no mention or suggestion whatsoever in the '852 patent of a system having two filters, or any system for that matter, since the patent is directed to methods for making Bragg gratings. The only manner by which the Examiner can apply the '852 patent as he has is via hindsight reconstruction based on the disclosure in Applicants' patent application. Such hindsight reconstruction is not allowed and cannot form the basis of a section 103 rejection. Prior art is only that which the hypothetical person would have selected without the advantage of hindsight and may not be gathered with the claimed invention in mind. *Pentec Inc. v Graphic Controls Corp.*, 776F.2d 309 (Fed. Cir. 1985).

Applicants fail to see how the '852 patent can be attributed the meaning and teaching ascribed to it by the Examiner because when taken as a whole the patent is directed to methods for producing Bragg gratings. Unlike the Examiner's assertion, the '852 patent has no disclosure whatsoever regarding at least one of the first reflective filter function and the second reflective filter function being not substantially flat over a substantial portion of the respective first or

second reflective filter function. It is improper to take statements out of the prior art wholly out of context and give them meanings they would not have had. *In re Wright*, 866 F.2d 422 (Fed. Cir. 1989). It is impermissible, as was done here, within the framework of §103 to pick and choose from any reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what the reference fairly suggests. *Bausch & Lomb v. Barnes-Hind, Inc.*, 796 F.2d 443 (Fed. Cir. 1986); *In re Hedges*, 783 F.2d 1038 (Fed. Cir. 1986).

Furthermore, in the Response to Arguments on page 21 of the Office Action, the Examiner states that the '918 patent teaches first and second optical elements each having reflective filter functions, that the '852 patent teaches that an optical filter or fiber Bragg grating can have a non-flat response, and that there is nothing in the '852 patent to suggest that only one fiber grating can be used in applications or systems. However, both references applied by the Examiner are devoid of any teaching, suggestion, or motivation to combine them. In fact, one skilled in the art would not think to combine such references without knowledge of Applicants' invention. The Examiner has already acknowledged the deficiencies in the '918 patent (Li), and when taken as a whole, the '852 patent does nothing to remedy these deficiencies. In particular, nothing in the passage of the '852 patent (column 11, lines 63-67 to column 12, lines 1-18) cited by the Examiner would lead one of ordinary skill in the art to conclude that a fiber Bragg grating can have a non-flat response – the passage discloses a design for a coupling function. This coupling function is only a parameter that is used to describe the relative displacement of the lines of the Bragg grating (column 7, lines 2-8). More specifically, the coupling function is used to determine the placement of lines in the Bragg grating and not the flatness or non-flatness of the response, which depend on an impulse response and amplitude and phase responses of input light. Because the coupling function does nothing to produce a non-flat response, one of ordinary skill in the art would not look to the coupling function as described in the passage cited by the Examiner in conjunction with the '918 patent to arrive at at least one of a first reflective filter function and a second reflective filter function being not substantially flat over a substantial portion of the respective first or second reflective filter function.

In order to apply the '852 patent, the Examiner has not taken into account what the reference as a whole teaches and has only selected one ambiguous statement to support the 103 rejection. The '852 patent is directed to a method for making Bragg gratings. Furthermore, the

'852 patent does not teach using two filters in a system as the Examiner contends when he states that the '852 patent teaches that "at least one of the first reflective filter function and the second reflective filter functions is not substantially flat over a substantial portion of the respective first or second reflective filter function." Two filters are never discussed, nor does the passage relied on by the Examiner in support of his 103 rejection provide any clear teaching or suggestion of a filter function that is not substantially flat. The Examiner has read limitations into the '852 patent gleaned from Applicants' patent application and then selected only so much of the '852 patent's disclosure as the Examiner felt supported his position to the exclusion of the rest of the '852 patent's teachings. It is improper to use Applicants' patent application as an instruction book on how to reconstruct the prior art. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1987). One cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention. *Azko N.V. v. United States ITC*, 808 F.2d 1471 (Fed. Cir. 1986).

Based on the foregoing, both the '918 patent and the '852 patent, individually and in combination, fail to teach all of the recitations of Applicants' invention as recited in claims 1 and 32. Consequently, because not all of the claim recitations are taught by the cited references, Applicants' claims 1 and 32 are necessarily non-obvious, and Applicants respectfully request that the Examiner withdraw the rejections of claims 1 and 32.

Regarding claim 58, in support of his rejection of this claim, in the Response to Arguments section of the Office Action, the Examiner is once again reaffirming his position that the term "substantially" is not defined in the specification and no quantitative measure has been associated with the term. The Examiner's reliance on such statements is misguided and flies in the face of a well-established body of case law. There is no requirement for terms of degree such as "substantially" to be defined in the specification. In fact, the case law clearly states that such terms do not have to be defined. Applicants reiterate the citations set forth above in arguing the patentability of claims 1 and 32 for the Examiner's convenience.

"The term 'substantial' is a meaningful modifier implying approximate rather than perfect." *Playtex Products, Inc. v. Proctor & Gamble Company and Proctor and Gamble Distributing Company*, 400 F.3d 901, 907 (Fed. Cir. 2005). In *Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc., GLS INDUSTRIES, Inc., Equipment, Inc., Raymond R. Price and Gerald P. Price*, 340 F.3d 1298 (Fed. Cir. 2003), the court opined "words of

approximation, such as ‘generally’ and ‘substantially,’ are descriptive terms commonly used in patent claims ‘to avoid numerical boundary to the specified parameter.’” *Anchor Walls at 1310-1311 citing Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367 (Fed. Cir. 2001) (quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1217 (Fed. Cir. 1995)). Terms such as “approach each other,” “close to,” “substantially equal,” and “closely approximate,” are ubiquitously used in patent claims and that such usages, when serving reasonably to describe the claimed subject matter to those of skill in the field of the invention and to distinguish the claimed subject matter from the prior art, have been accepted in patent examination and upheld by the courts. And while ideally, all terms in a disputed claim would be definitively bounded and clear, such is rarely the case in the art of claim drafting. *Andrew Corp. v. Gabriel Elecs. Inc.*, 847 F.2d 819, 821-22 (Fed. Cir. 1988).

The case law is clear regarding the fact that the Examiner’s requirement that the term “substantial” be defined or quantified is not required and that the manner in which applicant has used this term is proper.

Aside from the Examiner’s interpretation of the term “substantial” with regard to claim 58, the Examiner admits that the ‘918 patent does not teach that the first and second reflection wavelengths are substantially the same, but he then alleges that the ‘852 patent makes this teaching. As support, the Examiner again cites from column 11, lines 63-67 and column 12, lines 1-18 of the ‘852 patent, the text of which is reproduced above, and alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a non-continuous or non-monotonic filter function as taught by the ‘852 patent for the filter of the ‘918 patent to provide for filter characteristics that are well-matched to ideal filter responses.

The ‘852 patent, however, fails to disclose, teach, or suggest first and second optical waveguides that are optically connected such that the first reflection wavelength and the second reflection wavelength are substantially the same for the simple reason that the optical fiber grating system of the ‘852 patent does not disclose, teach, or suggest two waveguides. So the failure of the ‘852 patent to teach a second optical waveguide means that the ‘852 patent does not teach a second wavelength. Therefore, all of the recitations of Applicants’ claim 58 are not taught. In view of the Examiner’s acknowledged deficiencies of the ‘918 patent and the ‘852 patent’s lack of teaching of a second optical waveguide, there can be no suggestion or motivation to combine the two references without knowledge of Applicants’ invention. The Examiner has

not taken into account what the '852 patent as a whole teaches, and only selected one very vague section of it in support of the 103 rejection. The '852 patent is directed to a method for making Bragg gratings – absolutely no mention is made of a second waveguide or the connection thereof to a first waveguide such that the first and second reflection wavelengths are substantially the same. Therefore, nothing in the passage (or elsewhere in the '852 patent) cited by the Examiner in support of the 103 rejection provides any teaching or suggestion for first and second optical waveguides that are optically connected such that the first reflection wavelength and the second reflection wavelength are substantially the same.

Because both the '918 patent and the '852 patent fail to disclose, teach, or suggest what Applicants recite in claim 58, namely, first and second optical waveguides that are optically connected such that the first reflection wavelength and the second reflection wavelength are substantially the same, both the '918 patent and the '852 patent fail to teach all of the claim recitations of Applicants' invention. Consequently, because not all of the claim recitations are taught by the cited references, Applicants' claim 58 is necessarily non-obvious, and Applicants respectfully request that the Examiner withdraw the rejection of claim 58.

Claims that depend from a claim that is non-obvious are themselves necessarily non-obvious. Because claims 2-6, 8, 9, 11, 12, and 15 depend from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claims 2-6, 8, 9, 11, 12, and 15 are necessarily non-obvious. Applicants, therefore, respectfully submit that claims 2-6, 8, 9, 11, 12, and 15 are allowable. Accordingly, Applicants respectfully request that the rejections of claims 2-6, 8, 9, 11, 12, and 15 be withdrawn.

Furthermore, because claims 33, 34, 36, 43-45, and 47 depend from claim 32, and because claim 32 is asserted to be non-obvious for the reasons presented above, claims 33, 34, 36, 43-45, and 47 are necessarily non-obvious. Applicants, therefore, respectfully submit that claims 33, 34, 36, 43-45, and 47 are allowable. Accordingly, Applicants respectfully request that the rejections of claims 33, 34, 36, 43-45, and 47 be withdrawn.

Moreover, because claims 59-62, 64, and 66-68 depend from claim 58, and because claim 58 is asserted to be non-obvious for the reasons presented above, claims 59-62, 64, and 66-68 are necessarily non-obvious. Applicants, therefore, respectfully submit that claims 59-62, 64, and 66-68 are allowable. Accordingly, Applicants respectfully request that the rejections of claims 59-62, 64, and 66-68 be withdrawn.

With regard to claim 71, the Examiner also admits that the '918 patent does not teach that at least one of the first and second reflective filter functions is not substantially constant over a substantial portion of the first and second reflective filter function, but he then alleges that the '852 patent does make this teaching. As support, the Examiner again cites from column 11, lines 63-67 and column 12, lines 1-18 of the '852 patent, the text of which is reproduced above and alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a non-continuous or non-monotonic filter function as taught by the '852 patent for the filter of the '918 patent to provide for filter characteristics that are well-matched to ideal filter responses.

Applicants again take issue with the Examiner's interpretation of the term "substantial" as indicated above and respectfully assert that a definition of the term is not required. Also, the '852 patent further fails to disclose, teach, or suggest that at least one of the first and second reflective filter functions is not substantially constant over a substantial portion of the respective first or second reflective filter portion, as recited in claim 71. In particular, the '852 patent does not disclose, teach, or suggest first and second optical elements each including a respective reflective element, the second optical element being optically connected to the first optical element. Again, in view of the Examiner's admission that the '918 patent does not teach that at least one of the first and second reflective filter functions is not substantially constant over a substantial portion of the first and second reflective filter functions, and in view of the fact that the '852 patent cannot disclose or teach such a configuration because it lacks a second optical element, there can be no suggestion or motivation to combine the two references without knowledge of Applicants' invention. Accordingly, the Examiner's rejection of claim 71 based on the '918 patent and the '852 patent can only be based on the impermissible use of hindsight reconstruction.

Because both the '918 patent and the '852 patent, individually and in combination, fail to disclose, teach, or suggest what Applicants claim in their claim 71, namely, that at least one of the first and second reflective filter functions is not substantially constant over a substantial portion of the first and second reflective filter functions, both the '918 patent and the '852 patent, individually and in combination, fail to teach all of the claim recitations of Applicants' invention. Consequently, because not all of the claim recitations are taught by the cited references,

Applicants' claim 71 is necessarily non-obvious, and Applicants respectfully request that the Examiner withdraw the rejection of claim 71.

With regard to claim 72, the Examiner admits that the '918 patent does not teach that at least one of the first and second reflective filter functions is not substantially rectangular or square in shape over a substantial portion of the first and second reflective filter functions, but he then alleges that the '852 patent makes this teaching. Again, the Examiner cites from column 11, lines 63-67 and column 12, lines 1-18 of the '852 patent, the text of which is reproduced above and alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a non-continuous or non-monotonic filter function as taught by the '852 patent for the filter of the '918 patent to provide for filter characteristics that are well-matched to ideal filter responses.

As stated above, a definition of the term "substantial" is not required. Also, the '852 patent fails to disclose, teach, or suggest that at least one of the first and second reflective filter functions is not substantially rectangular or square in shape over a substantial portion of the first and second reflective filter functions, as recited in claim 72. Again, the '852 patent cannot make this teaching because it does not disclose first and second optical elements optically connected, the second optical element being connected to receive the reflected first wavelength band of light. Nothing from column 11, lines 63-67 and column 12, lines 1-18 of the '852 patent indicates that first and second reflective filter functions are not substantially rectangular or square in shape over substantial portions of the first and second reflective filter functions, particularly because, as stated above, the '852 patent does not disclose a second optical element. Thus, there can be no suggestion or motivation to combine the two references without knowledge of Applicants' invention. Accordingly, the Examiner's rejection of claim 72 based on the '918 patent and the '852 patent can only be based on the impermissible use of hindsight reconstruction.

Because both the '918 patent and the '852 patent, individually and in combination, fail to disclose, teach, or suggest what Applicants claim in their claim 72, namely, that at least one of the first and second reflective filter functions is not substantially rectangular or square in shape over a substantial portion of the first and second reflective filter function, both the '918 patent and the '852 patent, individually and in combination, fail to teach all of the claim recitations of Applicants' invention. Consequently, because not all of the claim recitations are taught by the

cited references, Applicants' claim 72 is necessarily non-obvious, and Applicants respectfully request that the Examiner withdraw the rejection of claim 72.

Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the '918 patent in view of the '852 patent and further in view of U.S. Patent No. 6,097,487 to Kringlebotn et al.

Because claim 7 depends from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claim 7 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 7 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 7 be withdrawn.

Claims 10, 35, and 63 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '918 patent in view of the '852 patent and further in view of U.S. Patent No. 6,236,782 to Kewitsch et al. (hereinafter "the '782 patent").

Because claim 10 depends from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claim 10 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 10 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 10 be withdrawn.

Furthermore, because claim 35 depends from claim 32, and because claim 32 is asserted to be non-obvious for the reasons presented above, claim 35 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 35 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 35 be withdrawn.

Moreover, because claim 63 depends from claim 58, and because claim 58 is asserted to be non-obvious for the reasons presented above, claim 63 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 63 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 63 be withdrawn.

Claims 13, 14, 16-19, 37, 46, 49-51, 53, 54, 56, and 65 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '918 patent in view of the '852 patent and further in view of U.S. Patent No. 6,229,827 to Fernald et al. (hereinafter "the '827 patent").

Because claims 13, 14, 16-19, 37, 49-51, 53, 54, and 56 depend from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claims 13, 14, 16-19, 37, 49-51, 53, 54, and 56 are also necessarily non-obvious. Applicants, therefore, respectfully submit that claims 13, 14, 16-19, 37, 49-51, 53, 54, and 56 are allowable.

Accordingly, Applicants respectfully request that the rejections of claims 13, 14, 16-19, 37, 49-51, 53, 54, and 56 be withdrawn.

Furthermore, because claim 46 depends from claim 32, and because claim 32 is asserted to be non-obvious for the reasons presented above, claim 46 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 46 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 46 be withdrawn.

Moreover, because claim 65 depends from claim 58, and because claim 58 is asserted to be non-obvious for the reasons presented above, claim 65 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 65 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 65 be withdrawn.

Claims 20 and 21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the '918 patent in view of the '852 patent and further in view of U.S. Patent No. 6,310,990 to Putnam et al.

Because claims 20 and 21 depend from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claims 20 and 21 are also necessarily non-obvious. Applicants, therefore, respectfully submit that claims 20 and 21 are allowable. Accordingly, Applicants respectfully request that the rejections of claims 20 and 21 be withdrawn.

Claim 52 has been rejected under 35 U.S.C. §103(a) as being unpatentable over the '918 patent in view of the '852 patent in view of the '827 patent and further in view of the '782 patent.

Because claim 52 depends from claim 1, and because claim 1 is asserted to be non-obvious for the reasons presented above, claim 52 is also necessarily non-obvious. Applicants, therefore, respectfully submit that claim 52 is allowable. Accordingly, Applicants respectfully request that the rejection of claim 52 be withdrawn.

Applicants believe that the foregoing amendments and remarks are fully responsive to the Office Action and that the claims herein are allowable. An early action to that effect is earnestly solicited.

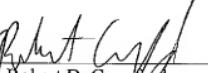
If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is invited to telephone the undersigned.

Applicants believe that no fees are due with the submission of this Response. If any charges are incurred with respect to this Response, they may be charged to Deposit Account No. 50-0260, Order No. CC-0273.

Respectfully submitted,

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By


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